INDIVIDUAL AND FAMILIAL CORRELATES OF CHILDREN'S FANTASY PLAY

By

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The purpose of this study was an attempt to discover individual and familial correlates of children's imaginative play.

Two hundred eighty-one children, representing all those for whom informed consent had been obtained (61.62% of the total number of children in the kindergarten and first grades of the Portsmouth, Rhode Island school system) were tested with the Peabody Picture Vocabulary Test and three measures of fantasy pre-disposition: The Barron Movement Threshold Inkblots, the Singer Structured Fantasy Pre-disposition Interview (SFPI) and the Tell-a-Story Transcendence Index. Children with PPVT scores below 100 were omitted from the fantasy pre-disposition sample. A median split for each fantasy pre-disposition measure with scoring criterion of rank above or below the median on each of the three tests enabled identification of 25 high fantasy pre-disposition (HF) and 55 low fantasy pre-disposition (LF) children from the remaining 221.

Seventeen intact families of HF children and 21 intact families of LF children consented to participate. These were middle-class families with at least one parent in every family having at least one year of college.

Parents, individually, were administered the three fantasy pre-disposition measures, a test for abstract versus concrete conceptual style and a questionnaire regarding home-play environment. In addition there was a short demographic questionnaire and the mother and child were engaged in a play activity termed "Interaction." Siblings over the age of four were tested with the three fantasy pre-disposition measures.

The mother's Barron and SFPI scores were significantly correlated with the child's SFPI score. The mother's SFPI score was also significantly correlated with the child's Tell-a-Story score. Neither fathers' nor siblings' scores on the fantasy pre-disposition measures correlated with those of the children.

The number of restrictive responses of the mother with regard to her attitudes toward children's play in the home was significantly and negatively correlated with the fantasy pre-disposition of the child. Fathers' restrictive responses were not significant.

The score on the Interaction play activity between mother and child was significantly correlated with the fantasy pre-disposition of the child.

The number of years of school of the mother, but not the father, correlated significantly with the child's fantasy pre-disposition.

The child's PPVT IQ was significantly correlated with the fantasy pre-disposition, despite the fact that all IQs below 100 had been eliminated from the selection sample.

The abstract versus concrete conceptual style of the parent, mother or father, did not differentiate between LF and HF children.

No significant differences between LF and HF groups were obtained in terms of sex, ordinal position, grade in school, age of mother, age of father, outside employment of mother, number of rooms in the home or number of persons in the family.

Individual and familial correlates of children's fantasy play suggested by this study are the child's verbal IQ, mother's scores on two of the fantasy pre-disposition measures, her lack of restrictiveness with regard to play in the home, the number of her years in school and her inclination to engage the child in play which contains fantasy elements. The small number of subjects in relation to the number of variables considered necessitates caution in interpreting findings.

CHAPTER I

INTRODUCTION AND STATEMENT OF PROBLEM

The systematic study of play is an astonishingly neglected research area. It is difficult to account for such a blind spot on the part of those interested in child development, especially since there exists a common consensus regarding the prevalence of play in a child's life -- a general notion that given half a chance, the young child would probably play most of the time.

However, although it is impossible to pick up a text directed to teachers of young children without encountering a section praising the virtues of play, as a research topic it is indexed with only four references in the third edition of Carmichael's Manual of Child Psychology, five more if cross-referenced as "games." All except two of these occur in Piaget's chapter on his own theory. The 1974 Annual Review of Psychology indexes "play" not at all.

One deterrent to the study of play seems to have been the socio-cultural milieu from which scientists select their problems. Sutton-Smith (1971) and Greg Stone (1971) suggest that the influence of a heavy achievement orientation tended to promote a view of play as the polar opposite of useful work and hence, inconsequential, the occupation of idle children.

A second and major deterrent has undoubtedly been the problem of formulating an appropriate operational definition. A certain circularity of reasoning occurs in the attempt to differentiate play from not-play, since it is necessary to separate out already-identified "playful" elements.

Ellis (Note 1) points up a further paradox which hampers experimental rigor -- the more the investigator gains control over a particular behavior, the less the behavior can be playful. Klinger (1969), attending to the problem of definition, asserts, ". . . the relevant behavioral domain is simply insufficiently mapped to support the setting of rigorous positive boundaries on the concept of play" (p. 279).

The task of mapping the "relative domain" of play is, however, beginning to attract investigative attention. A major impetus has come from the proposition that play might have important consequences for later development. Reminiscent of those who, early in the century, saw play as practice for later proficiency, present-day ethologists are suggesting that play is neither antic nor idle, but rather, essential for acquiring the skills which will be necessary for survival (DeVore, 1963; Goodall, 1962). The use of sticks for the retrieval of termites, for example, does not seem to be learned by the isolated ape who has no opportunity to play with sticks, even when exposed to competent models (Mason, 1970). Kempler (Note 2) has recently extended the notion by suggesting that the playing child, creating a repertoire of divergent responses, is building a kind of "future shock" absorber and preparing for the unpredictable.

The idea that play is useful was a major theme for the second annual symposium on play, convened in Atlanta in April, 1974, for "people who share the conviction that play is a rich and natural source of creativity, learning and therapy." The title of the symposium was The Player and the Environment and the program invited participants to consider "the role an individual's environment has in encouraging or suppressing play in a child or adult."

Among the featured speakers, Dr. Jerome Singer and Dr. Dorothy Singer

(Note 3) addressed the conference on the importance of an adult model for fostering children's play. They were primarily concerned with the problem of encouraging nursery school teachers to interact imaginatively with the children, suggesting that without such interaction the amount of imaginative play among children decreases, and that the adult interaction seems to have an eliciting effect, providing the child license to play imaginatively.

Such adult influence on children's imaginative play should also be important in the setting of the home. Though studies of parental contributions to child behavior have been criticized for methodological reasons (Yarrow, 1963) for dearth of outcomes (Caldwell and Hersler, 1964) and for conceptual flaws (Bell, 1968, 1971), there is continuing interest in parent attitudes, practices and general home conditions as major factors in several aspects of child development (Rebelsky, 1974; Baumrind, 1971).

Of all of the developmental characteristics, that of symbolic functions seems most securely tied, empirically, to beginning influences, with both language and concept formation tending to thrive or falter in terms of early environmental variables (Gordon, 1969; Hess and Shipman, 1965). Since imaginative play is characterized by the use of symbols (indeed, is termed symbolic play by Piaget) it seems reasonable to suggest that it, too, bears the stamp of the especial confluence of family circumstances, attitudes and practices. However, little is known about the home background factors which might relate to children's imaginative play.

The present investigation was designed to study parent attitudes, practices and certain home conditions which might be correlated with children's imaginative play. Since the study of play can be said to have scarcely begun, it seems important to attempt to obtain data which relates to the child's primary environment, the site of first play experiences.

In addition, because the field is young and tools and instruments have neither been extensively developed nor tested, it was determined to employ several existing measurement devices in an effort to assist in establishing a further gauge of usefulness. Cross-study comparisons are also facilitated when investigators continue with techniques and in directions previously delineated by others.

The purpose of this study, accordingly, is to investigate possible relationships between level of children's imaginative play, measured with three instruments developed by Singer (1973) and his students, and several familial variables which borrow from suggestions of Bishop and Chace (1971) regarding requisites for a playful environment.

CHAPTER II

REVIEW OF THE LITERATURE

A search of the literature reveals that most contemporary investigations have proceeded on the basis of assumptions that play (especially imaginative play) is important for future development and that children learn (or fail to learn) certain modes of play in terms of certain kinds of environmental influences. However, it would be remiss to omit mention of the fact that the most systematic theory of play to date contradicts such contentions.

Piaget's Theory of Play

For Piaget (1951) play is a kind of inconsequential by-product of the really important organismic business of adaptation. Play occurs when schemas have become so familiar that the adaptive processes of assimilation and accommodation are not invoked; the activity is "merely for pleasure, accompanied by smiles and even laughter, and without the expectations of results characteristic of the circular reactions through which a child learns" (p. 90). Play, therefore, is not accorded any part in the construction of intelligence. As a matter of fact, play proceeds only when efforts toward adaptation are relaxed.

Nor, for Piaget, does imaginative play achieve any special significance. Rather, it is considered an invariant, the intermediate stage between practice games of infancy and the games-with-rules of later life. Furthermore, since Piaget views symbolic play as occurring precisely

because of the child's inability to think rationally and logically, he would probably be mystified as to why anyone would even try to teach it. Play, in the eyes of Piaget, is the occupation of the immature child, reflecting his as yet inefficient modes of thought and is naturally abandoned along with his childish views of reality as concrete and formal operations are accomplished.

Piaget's theory has been criticized for his apparent insistence that symbolic play is a symptom of immaturity, a kind of "mental digestive system" (Millar, 1966, p. 50) whereby reality can be assimilated wholly in terms of the child's own egocentric preoccupations of the moment. This would seem to relegate adult fantasy and divergent thinking to the same realm, implying that creative adults have simply failed to grow up.

However, no theory as detailed and cohesive has emerged as an alternative. Learning theorists have not attended to play, though it can be suggested that no new paradigm would have to be proposed to account for its appearance and persistence in the life of a child. As an instrumental response it produces satisfying changes in the environment -- baby shakes the rattle and the small child rolls the bright ball. Parental approval of activities would provide differential reinforcement. Imitation of models in the environment as well as instruction might direct the child toward acquiring the various skills and interest in sports or, contrariwise, toward pursuits requiring imagination. These notions explicitly or implicitly underly most current empirical research on play. Several different kinds of environmental "input," seen as influencing play, have been investigated.

Play is Learned -- Environmental Influences

Socio-economic Influences

The possibility that socio-economic factors influence the kind of play in which the child typically engages rests heavily on a study conducted by Smilansky (1969) in Israel. Concerned with the school problems of children from certain immigrant groups, her observations led to the conclusion that socio-dramatic play (defined as involving at least one other child in make-believe roles, actions and verbalizations which substitute for real objects and situations, and sustained for at least ten minutes) is virtually absent among these children. The conviction was echoed in this country in terms of our own ghetto children by Lois Murphy (1972), Sutton-Smith (1971) and Weikart, Rogers and Adcock (1970) among others. Descriptions of the play of these children include notes of the preponderance of impulsive and aimless activity, lack of sustained attention and absence of signs of pleasure.

However, the contention that disadvantaged Israeli children do not develop ability to engage in symbolic social play was disconfirmed by Eifermann (1971) who sampled the play behavior of an enormous number of Israeli children, carefully selected in terms of socio-economic class, geographic location, community structure (town, kibbutz, Arab settlement) and culture. She found that "culturally deprived" children play pretend games both at later ages and to a far greater extent than advantaged children. Furthermore, she reports, their pretend play is as elaborate and as well sustained. An explanation for the contradictory findings might lie in the setting in which play is observed. Labov (1972) suggests, with regard to observations of language deficiencies of disadvantaged children, that the usual setting for these judgments is simply too inhibiting for certain children and that only by joining them "on their

own turf" can their behavior be truly sampled.

Play as Influenced by Instruction

Though reports of socio-economic differences in play may be open to question, the possibility of teaching disadvantaged children to play pretend games is better substantiated. Smilansky's lead (1969) in documenting the results of teaching socio-dramatic play to certain children was followed by similar efforts by Saltz and Johnson (1973) in Detroit and Freyberg (1973) in New York City. Each study reports significant gains in the amount of symbolic play subsequently initiated by the trained children, together with increases in language production, vocabulary range, verbal fluency and ability to sustain attention as well as, for Saltz and Johnson, significant increases in several retention abilities. Each of these studies maintained appropriate controls for pleasant interaction with adults so that the gain can be attributed to the imaginative play rather than to simply the attention and interest of an adult. Persistence of the gains over a long period of time has not been assessed. Specific definition of the make-believe play differs somewhat from study to study, but each definition includes the presence of a theme, roles, objects and elements which are not present in reality.

The Russians, too, seem to be concerned with the role of the adult teacher in fostering imaginative play (Elkonin, 1971), but there is no hint of worry that some children may be deficient in make-believe productions. Rather, it is believed that without adults to organize and guide this activity, the imaginative play of the child might become a kind of idle and self-indulgent dallying (Repina, 1971). Adults are to serve as models for role playing, first mediating the use of playthings, then leading the child into pretending with objects which are used as substitutes

for things which are missing (e.g., a spoonful of pine needles as imaginary food). Finally the adult must help the child to imitate the activities of admired grown-ups with appropriate suggestions, such as handing the doll to the youngster and saying, "The baby is sick. Will you examine her, doctor?"

The Russian psychologists see make-believe and imagination as contributing to the child's social identity when he tries out different social roles and also as the bridge to abstract thought.

Play as Influenced by Toys

The question of the kinds of playthings which might encourage play has attracted the attention of several investigators.

Gilmore (1966) found novelty to be an important variable, with his sample of children responding more readily to new rather than familiar objects in every play situation. Hutt (1971) refined the attraction of new objects in attempting to distinguish between play activity and "specific exploration." Play activity would not show a response decrement while exploration would be characterized by a response decrease. Using a specially constructed box with a lever attached to a counter, the events produced by the lever were varied systematically. Hutt found that after the 3 to 5-year old child had explored the features of the box and lever fully, lever pushing decreased. Then the box and lever were incorporated into "play" with little focus on the lever and its effects. She suggests that novelty provokes exploration while play occurs as the object becomes familiar. It is as if the question shifted from "what does this object do?" (exploration) to "what can I do with this object?" in play.

Pulaski (1970) hypothesized that unstructured toys would promote more imaginative play than toys which are very realistic. She tested

middle-class kindergarten, first and second graders, selecting a group of "high fantasy pre-disposition" and a group of "low fantasy pre-disposition" on the basis of several measures developed by Singer (1973). The results indicated that for children of five, six and seven years, the type of toy seems to have little effect. High fantasizers played with both types of toys imaginatively (according to a fantasy rating scale) while low fantasizers simply "fooled around," whether the toy was structured or unrealistic. Pulaski speculated that children's "playing style" may be fairly well formed by age five. Branch (Note 4) is testing this by conducting a similar study, using much younger children, at Yale University. A group of boys and girls who are 20 months and 26 months old are being observed at home during play with high-realistic versus low-realistic toys. Only the preliminary results are available, but these suggest an age effect, with all children engaging in more make-believe at the later age, a sex effect with girls playing more imaginary games at both age levels, and a toy by sex by age interaction with boys decreasing the amount of their pretend play with high realistic toys at the older age level while girls increase the amount of pretend play with high realistic toys at the later age level. Branch notes also that the substantial differences exist in amount of pretend play across subjects and suggests that even at this early age, children may evidence pretend play as a distinctive play mode.

Family Influences on Play

Few studies have been located which attend to familial correlates of play. Several studies can be considered pertinent if a link can be conceptualized between the imaginative productions of symbolic play and the imagination necessary for creativity.

One study which is directly concerned with family variables and

children's make-believe play (Freyberg, 1973) is based on a very small sample. Another (Singer, 1973) reports on some parental practices which were found to be important as a result of interviewing children. The other studies were undertaken with a different focus -- imaginary companions for Manosevitz, Prentice and Wilson (1973), and creativity for MacKinnon (1962), Bishop and Chace (1971), and Dewing and Taft (1973). Nevertheless, findings from these studies are provocative and, taken together, seem to provide some fruitful leads for further investigation.

There is a persistent finding of the importance of birth order with first born and only children showing greater tendencies toward fantasy which has turned up in early studies of daydreaming (Singer, 1973) and appears for imaginary companions (Manosevitz et al., 1973) and children who play most imaginatively (Freyberg, 1973), but not for creative twelve-year-olds (Dewing and Taft, 1973).

Level of parental education seemed to be important as correlated with more make-believe play (Freyberg, 1973), but only the mother's level of education was significant for creative twelve-year-old children (Dewing and Taft, 1973).

Singer (1973) and Freyberg (1973) both report the possibility that opportunity for privacy may have some relationship to the child's tendency to play imaginatively. A possible allied finding is that of Dewing and Taft (1973) and Freyberg (1973) that more mothers of creative and imaginative children in their respective samples worked outside the home.

MacKinnon (1962), describing the childhood of creative architects, noted that:

> There was often a lack of intense closeness with one or both parents. Most often this appears in relation to the father rather than the mother, but often it

> characterized the relationship with both parents. . . . . Thus, if there was a certain distance in the relationship between parent and child, it had a liberating effect so far as the child was concerned. If he lacked something of the emotional closeness which some children experience with their parents, he was also spared the psychological exploitation that is so frequently seen in the life histories of clinical patients (pp. 491-492).

Singer (1973), commenting along the same lines, suggests:

> . . . an optimal balance of benign parental contact and opportunity to be alone seems therefore essential to the development of a rich imaginative life. This optimal situation occurs most readily where the child's mother is relatively warm, willing and capable of spending time with the child, but not so emotionally involved that she cannot at times leave the child to his own devices (p. 62).

According to Singer (1973) another family variable consists of the kinds of activities in which the child and parent engage together. He suggests that parents who read or tell stories to their children are providing a different kind of medium than those who spend time with their children playing games of skill or chance.

In a study which provided some important conceptual leads for the present investigation, Bishop and Chace (1971) argue that parental personality qualities most likely to encourage children's playfulness at home do not exist as isolated traits. Rather, they suggest, personality theory and research points to a coherence in personality attributes. Drawing upon the long series of publications by Harvey and associates (1961, 1966, 1970), they invoke the proposition that certain personality qualities are manifested in a basic "conceptual system," with differing levels of organization which can be ordered along a dimension of concreteness-abstractness. Four principle modes of conceptual functioning are described in terms of the characteristic beliefs and response patterns.

The concrete end of the continuum (System 1), with its simplistic view of the world, stereotyped and polarized in terms of absolutes, its small capacity to "decenter" or take the view of another, together with an inordinate need for structure and rules, is contrasted with the abstract end (System 4) which accepts the world as complex and varied, is open to new ideas and tolerant of ambiguity, views rules as utilitarian, but has no need for reliance on authority or rule for rule's sake.

Reasoning that abstract parents would better enhance children's play by refraining from imposing conventional standards, by willingness to accept novel (even bizarre) ideas and willingness to live with a certain amount of disorder, Bishop and Chace (1971) measured parents' conceptual systems on Harvey's concrete-abstract continuum. The category of the parent was then related to parental responses on a home-play environment questionnaire which inquired into attitudes and the kinds of conditions maintained for play, especially in terms of the restrictions imposed on play activities. Although no significant differences were found for fathers in the study, the outcome for mothers revealed that abstract mothers provided home play environments which were most free of constraints and that the children of these mothers were the most potentially creative. Potential creativity was measured by indicators of complexity and variety of performance on a laboratory play task.

The investigations of possible home influences on imaginative play are exceedingly few in number. Only slightly more numerous are studies of familial correlates of children's creativity. The latter were of interest because of several studies which have indicated a link between play, fantasy and creativity. Lieberman (1965) established significant correlations between "playfulness" and three measures of divergent thinking

in an often-cited study of play and creativity. More recently Schaefer (1969) surveyed 800 academically talented adolescents and discovered significant differences favoring the presence of imaginary companions in childhood for those rated as "creative" in both art and literary expression. Sutton-Smith (1967), also, tested the possibility of a relationship between play and creativity, suggesting that favorite, well-used toys enable the child to increase associations and therefore obtain more novel (i.e., creative) responses, a hypothesis upheld by his study for both boys and girls. Klinger (1969), suggests that fantasy and play are essentially undifferentiated until the third year, thereafter differentiated gradually as play becomes rule-governed. He, too, indicates that the imaginative productions of fantasy may be implicated in creativity.

Taken together, the studies of home and family variables, whether directed toward children's imaginative play or creativity, suggest possible influences which warrant further investigation. If an adult model is important for imaginative play, as the Singers suggest (Note 3), perhaps that adult would have to be comfortable with fantasy and make-believe. Adults who engaged in imaginative play themselves when young, and who enjoy fantasy in the present, may encourage more imaginative play for their children. Perhaps these are the same adults who, as Bishop and Chace (1971) propose, can refrain from too heavy-handed a management of the child's activity and insistence upon conventional forms of play, thereby providing a home environment which is conducive to fantasy and make-believe. These are the chief considerations which guided the present study.

CHAPTER III

DESIGN OF STUDY

The Problems and Hypotheses

The problem which the present study was designed to address is an almost total lack of information regarding family background factors which might encourage or discourage children's imaginative play.

Hypotheses were derived from the very few investigations to date, some of which were focused on creative children rather than children who engage in high levels of fantasy play. However, it seemed reasonable to assume, in the absence of data, that the imagination necessary for creativity and the imagination necessary for fantasy play might require similar facilitating environments, as Bishop and Chace (1971) have suggested.

Two groups of children, pre-selected for high or low fantasy pre-disposition, and their families were used to test the following hypotheses:

1. There will be a positive relationship between children's scores on the fantasy pre-disposition measures and their parents' scores on the same measures.

This hypothesis was suggested by the findings of Freyberg (1973) and Manosevitz et al. (1973) of more encouragement for imagination and fantasy among parents of children who engage in make-believe play and who have imaginary companions.

2. There will be a positive relationship between children's tendency

toward fantasy play and parents' tendency toward an abstract rather than concrete conceptual system as measured by Harvey et al. (1961) scale.

This hypothesis was suggested by the findings of Bishop and Chace (1971) with regard to parents of creative children who are characterized by these investigators as encouraging "truly playful play" (p. 321).

3. There will be a positive relationship between children's imaginative play and a less restrictive play environment in the home.

This hypothesis, also, borrowed from the findings of Bishop and Chace (1971) concerning the type of home play environment provided for more creative children.

4. There will be a positive relationship between scores of the children on the fantasy pre-disposition measures and those of their siblings who are age four or older on the same measures.

The rationale for this hypothesis suggested that if parents who are characterized by abstract conceptual systems and who provide a home play environment which is relatively free of adult constraints do, indeed, enable more imaginative play, the environment should operate similarly for other children in the family.

5. The homes of children with high fantasy pre-disposition will have significantly more room for privacy. Furthermore, more mothers of these children will be working mothers.

This two-part hypothesis was designed to follow up the findings of Freyberg (1973), Dewing and Taft (1973) and the suggestions of Singer (1973) regarding the need for privacy and for a certain amount of distance between parent and child, presumably obtained when the mother is occupied with employment outside the home.

6. There will be a positive relationship between children's scores

on measures of fantasy pre-disposition and an "Interaction" score obtained when mother and child are playing together with toys which can be used either imaginatively or realistically.

This final hypothesis was obtained from the suggestions of Lytton (1972) and Singer (1973) regarding the importance of the kinds of activities in which parent and child engage together.

Method

Subjects

Informed parental consent was obtained to include 281 kindergarten and first grade children in Portsmouth, Rhode Island for fantasy pre-disposition screening. This represents 61.62% of all kindergarten and first grade children enrolled in the Portsmouth school district at the time of testing. Consent was not obtained or was refused for the remaining 38.38%.

Sixty of the children were eliminated from the sample because they scored below 100 on the Peabody Picture Vocabulary Test. This was an attempt to avoid confounding fantasy pre-disposition scores with intelligence and verbal production. The remaining 221 children constituted the sample from which the subjects of the investigation were selected.

From their 221 protocols, according to a procedure which will be described, a group of 25 high fantasy pre-disposition (HF) and 55 low fantasy pre-disposition (LF) children were identified.

Families of these children were then contacted by telephone and invited to participate in the second phase of the study. Table 1 details the attrition of a number of potential families, some because of refusal and some because the family had moved before the contact could be made.

Single parent families and those with father absent because of sea-duty were omitted in order to adhere to the criterion of "intact families." Two black families were also omitted in order to maintain a homogeneous sample in terms of race. Two families turned out to be Portuguese immigrants, with some parental English-language deficiency; both were eliminated lest the child's LF score chiefly reflect the bilingual background. Finally, several families either had no phone or an unlisted number which could not be obtained, so that it was impossible to establish contact.

TABLE 1

ATTRITION RECORD OF POTENTIAL SUBJECT FAMILIES

	Potential HF Families (N=25)	Potential LF Families (N=55)
Reason for Elimination	Number Eliminated	Number Eliminated
Refused	3	12
Moved	3	7
Single Parent	1	5
No Phone or Unlisted Number	1	4
Minority Family		2
Portuguese Language		2
Sib of Other Child Already in Study		2
Total Eliminated	8	34
Remaining for Sample	17	21

Data, accordingly, were collected from 17 HF and 21 LF children, their parents and their siblings over the age of four.

The subjects consisted of 16 girls and 22 boys, 25 of whom were kindergarteners and 13 in the first grade, and their families. Twenty of the children were first born, two were only children and two were

members of sets of twins.

The average IQ was 121.16 (SD = 10.12).

Mothers of these children had a mean age of 31.55 years (SD = 4.80) while the average age of the fathers was 33.87 years (SD = 4.90).

The educational level of the parents was high. Mothers averaged 14.32 years of schooling, a little more than two post-secondary years (SD = 1.76) while fathers had a mean of 15.97 years, only slightly less than four years beyond high school (SD = 1.94).

Two families in the sample lived in apartments. The remainder lived in single family homes. The average number of rooms per household was 7.21 (SD = 1.56).

No family in this sample consisted of other than immediate family members. Average family size was 4.34 persons (SD = .71).

Occupations of fathers are listed in Table 2 and the occupational training of mothers is reported in Table 3.

TABLE 2

FATHERS' OCCUPATIONS

Group	Frequency	Occupation
Low Fantasy	6	Engineers
	3	Navy Officers
	1	Retired Navy Officer
	1	Lawyer
	1	Insurance Executive
	1	High School Teacher
	3	Financial Analysts
	1	Contractor
	1	Pastor
	1	Truck Driver (college student)
	1	Barber (college student)
	1	Steam Fitter (college student)
High Fantasy	6	Engineers
	2	Navy Officers
	1	Retired Navy Officer
	1	Lawyer
	1	Insurance Executive
	1	High School Teacher
	1	Electronic Technician (no college work)
	1	Anesthetist
	1	Technical Buyer
	1	Computer Programmer
	1	Brick Layer (no college work)

TABLE 3

MOTHERS' OCCUPATIONAL TRAINING AND COLLEGE WORK

Groups	Frequency	Occupational Training
Low Fantasy	2	Registered Nurse
	4	High School Teacher
	1	B. A. Degree
	1	B. S. Degree
	5	At least one year college
Total	13	
High Fantasy	8	Registered Nurse
	2	Elementary Teacher
	1	Speech Therapy
	1	B. S. Degree
	5	At least one year college
Total	17	

Procedure

The 281 children of the initial sample were tested with the Peabody Picture Vocabulary Test and with three fantasy pre-disposition measures by the principal investigator and six assistants, four specially-selected, outstanding undergraduate psychology students and two graduates of the psychology program at Roger Williams College, one of whom holds a master's degree in child development from the University of Rhode Island. All had received training in the use of the testing devices, had administered the tests to a number of children outside the study and were individually supervised by the principal investigator during the first three weeks of testing. Reliability data appear in a subsequent section.

The three measures of fantasy pre-disposition were:

1. The Barron (1955) Movement Threshold Inkblots. This is a series of 28 inkblots, arranged in a series so that it becomes progressively easier to see human movement (M), which has been found effective in use

with young children (Pulaski, 1970; Singer, 1973; Freyberg, 1973). The score is the number of the inkblot for which the child first responds with human movement association. It should be noted that the lower the score on this test, the earlier the M response has occurred, and hence the higher the fantasy pre-disposition.

2. The Singer Structured Fantasy Pre-disposition Interview (SFPI). A series of four questions developed by Singer (1973) which inquire into the child's favorite play activities (Appendix B). Described by Singer as a "clinical interview," the examiner is urged to use all skill in a attempting to ascertain whether there are "pretend" or fantasy elements in the child's responses. Because of the large number of examiners, however, it was determined to hold procedures as standard as possible, even at the risk of missing fantasy which might actually be present, in an effort to guard against the possibility of suggesting responses to the child. Therefore examiners were permitted to probe only with a question which requested "Tell me more about that."

Each interview question is scored with one point if fantasy or pretend is judged to be present in the response. The highest possible score for the SFPI would be 4, while the lowest possible is 0.

3. Tell-a-Story: Stimulus Situation, Card #6, Human CAT test. The stimulus situation for the Tell-a-Story, the sixth card from the Children's Appreception Test (CAT), Human version, depicts two covered, sleeping figures on the ground and a smaller person, head upraised and awake, in the foreground. The child is asked to make up a story about the picture. The story is recorded verbatim and scored according to the Transcendence Index developed by Weisskopf (1950) which awards one point for every element which is supplied by the story-teller, as opposed to those which

are obviously depicted in the stimulus situation. Thus, the child would be given three points for describing the larger figures as "the mother and father" . . . two for ascription of sex to each character and one for identification of a family relationship. Elements once scored were not credited upon repetition.

The validity of indices of fantasy pre-disposition as measures of imaginative play rests on a number of studies conducted by Singer (1973) and his colleagues. All findings point with statistical significance in the same direction. Pulaski (1970) found correlations between amount of imaginative play and ratings for fantasy pre-disposition significant at the .001 level. Freyberg (1973) also found a significant correlation ($p=.01$) between fantasy pre-disposition scores and observations of make believe play for the children in her study.

Scoring of the fantasy pre-disposition protocols was accomplished by the investigator and the assistants. Each protocol was scored twice, independently. The individual who had tested the child did not score the protocol. The two independent scorings were compared and any discrepancy resolved by means of consensus between the two scorers. The check for reliability of scoring is detailed in a subsequent section.

After all the protocols had been scored, a median score was obtained for each of the three measures. In order to be assigned to the high fantasy pre-disposition group, a child had to score below the median (because of the reverse scoring) on the Barron and above the median on the other two measures, while the child who was rated low fantasy pre-disposition would have scored above the median on the Barron and below the median on the SFPI and Tell-a-Story. The scoring criteria are listed in Table 4.

TABLE 4

SCORING CRITERIA FOR FANTASY GROUP ASSIGNMENT

Group Assignment	Fantasy Pre-disposition Tests		
	Barron	SFPI	Tell-a-Story
Low Fantasy Pre-disposition	19-28	0, 1 or 2	0, 1, 2, 3 or 4
High Fantasy Pre-disposition	1-18	3 or 4	5 and above (maximum = 10)

Consent was obtained from the 17 families of HF children and the 21 families of LF children for home interviews and testing at a time of family convenience. Except in one instance, all visits were scheduled and completed when the father could be home. All home interviews and testing were accomplished by the principal investigator and one or two of the student assistants. Mothers and fathers were separated in order to obtain the various measures, with examiners taking turns interviewing a mother one time and a father the next. The principal investigator did all of the mother-child Interaction observations. The second student assistant, on occasion, tested siblings and accomplished reliability checks for the Interaction observations (see reliability section).

Because screening of the children had taken place in November, December and January, because so many children had been tested and so many protocols scored and because interviewing of families did not begin until April, it was possible to interview families "blind." By the time the children had been assigned to the HF or LF category, they were just "names." The names were transcribed on to index cards from the category lists by a secretary, together with address and telephone number. Contacts

with the family were made using the card; examiners did not inform themselves of the category of the children until interviews were completed.

By means of the home visits, the following tests, Interaction activity, questionnaires and interviews were accomplished:

1. Fantasy Pre-disposition measures. Mothers, fathers and siblings of age four and over were tested with the three fantasy pre-disposition measures previously employed to screen the original children: Barron, Singer Structured Fantasy Pre-disposition Interview (SFPI), and the Tell-a-Story. Parents were asked to respond to the SFPI in terms of the kind of play they recalled from their own childhood. These measures were scored by two individuals associated with the study, independently, with a subsequent consensus if disagreement existed, exactly as were the children's, previously. The method of scoring had achieved a high degree of reliability (see section on reliability).

2. Abstract-Concrete conceptual system. O. J. Harvey's "This I Believe" test (1970) of conceptual level (Appendix C) was used to determine the conceptual system of the parent. Parents responded independently, writing responses to the open-ended statements with ten referents, six of which had previously been used by Harvey and for which detailed scoring criteria are described (Note 5). The four referents added for this study were: work, women's rights, law and education. Each referent is preceded by the statement "This I believe about . . . . . " Responses were timed, two minutes allowed for each response.

Each parent was categorized into one of four systems by two judges, scoring the protocols independently and arriving at a consensus with a third judge in case of disagreement. The principal investigator and student assistants served as judges. Because the reliability check on

scoring, using an outside observer, was unsatisfactory (detailed in the section on reliability) and because the interest for this investigation lay in terms of the concrete versus abstract direction on the continuum conceptualized by Harvey (et al., 1961), System 1 and System 2 scores were pooled in order to assign a "concrete" category to parents with those scores, while System 3 and System 4 scores were designated as belonging to the "abstract" category. Justification for this procedure obtains both from the fact that emphasis for this study was upon the global differences between concrete and abstract orientations of parents, rather than the qualitative differences among the four systems, and that the contrast between the two categories proved to be much more reliable (again, see the section on reliability studies) than assignment of a System score.

3. Home Play Environment: Parent Permissives and Restrictives. Questions concerned with parent attitudes toward children's play were selected from the original questionnaire developed by Bishop and Chace (1971), utilizing those questions which had successfully discriminated between restrictive and permissive parents in their investigation (Appendix D). The questionnaire is designed with multiple alternative answers plus a space for write-in answer for use if the parent decides that none of the available answers are suitable. One of the alternatives serves as a criterion response indicating restrictiveness and one is a criterion response for permissiveness. The remaining answers and the write-in response represent varying degrees of restriction or permission -- that is, each contained some contingencies or disclaimers. This enabled a count of the number of wholly restrictive or wholly permissive responses of each parent. These questionnaires contained eight questions

and were also completed by each parent independently.

4. Interaction: Mother-Child play activity (Appendix E). Having been previously informed that the principal investigator would like to observe them playing together, the mother and child were requested to sit together at a table or on the floor. The examiner emptied a cannister of previously selected toys, saying, "Here are lots of little toys. Both of you, playing together, build an exciting scene . . . like for a movie . . . and then I will ask you to tell me what is happening." (Adapted from Erikson, 1972)

The toys were divided into two categories, "realistic" and "fantasy," with each realistic toy having its fantasy counterpart.

	Realistic Toys		Fantasy Toys
1.	Mother	1.	Similar-sized, milk bottle shaped wooden figure.
2.	Father	2.	Similar-sized, milk bottle shaped, wooden figure.
3.	Baby	3.	Similar-sized, milk bottle shaped, wooden figure.
4.	Rhinocerus	4.	Green monster thing.
5.	Lion	5.	Red thing.
6.	Dog	6.	"Dumbo" elephant, sitting and smiling.
7.	Toy furniture	7.	Blocks of assorted shapes. Identical number of items as furniture.
8.	Toy car	8.	Thing on wheels
9.	Policeman figure	9.	Superman figure

In addition there was a set of colored pipe cleaners and a set of plain popsickle sticks. These were scored as "fantasy" items.

A check-list of the toys with separate space for recording mother or child use enabled the observer to record the particular toy and the user. Mother and child were scored separately for the number of toys of either category which each contributed to the scene. Only toys which were actually used in the scene were counted, yielding a "realistic toy" and a "fantasy toy" score for each.

The description of "what is happening" in every instance reported by the child, was recorded verbatim and then read back to the pair for additions or corrections. The description was scored according to the criteria listed below by three judges, independently, with agreement of two out of three or all three constituting the reliability criterion, to yield an Interaction score of 1 to 5 for the mother and child playing together. The higher score reflects more make-believe or fantastic elements.

Score	Criteria (Adapted from Pulaski, 1970)
(1)	Familiar everyday experience Concrete Ordinary Unelaborated Use of realistic toy in realistic, unelaborated role or function -- for example, the car is used as a car or the policeman as a policeman.
(2)	Indirect experience . . . TV characters, movie characters, story book characters and/or events. Relatively unelaborated narrative.
(3)	Content and characters farther removed from experience or more elaborated. Might include "silly" or aggressive or emotional fantasy.
(4)	More imaginative, unusual or original than #3 above. Fantasy elements more detailed.

Score	Criteria (continued)
(5)	Fantastic Farthest removed from present time, space or reality. Most original, richest imagination. Elaborate details.

5. Demographic data (Interview) (Appendix F). The interview, conducted with either mother or father, ascertained the age of each parent, the number of years of schooling for each, the occupation of the father, the occupation of the mother, the number of persons living in the household and the number of rooms in the house.

Reliability studies

Because of the large group of individuals engaged in both testing and scoring, because certain aspects of scoring involved judgments and because the reliability of certain of the fantasy pre-disposition measures does not seem to have been well-documented, several different reliability studies were conducted during the course of the investigation.

1. Reliability of the testing (fantasy pre-disposition screening) of the children. Testing of the children took place over a period of three months with Christmas vacation intervening. Two reliability studies were accomplished, the first early in the testing period and another during the last three weeks of testing in an effort to guard against "slippage" of examiner technique. Two individuals, both advanced psychology students unconnected with the main investigation, were involved, one completing the early study and the second performing the study at the end of the testing period. The procedure in both instances was identical. The observer sat in on the testing two times for each examiner, completing a protocol each time which was later scored according to the standard

scoring procedure. The scores obtained on the reliability-observer's protocol were compared to the scores obtained on the examiner's protocol. Percent agreement was established by the following formula:

$$100 - \frac{\text{No. of disagreements}}{\text{No. of agreements}} = \% \text{ agreement}$$

The first observer, in November, 1974, obtained nine protocols from two observations of four student-examiners and one observation of the principal investigator. The protocols yielded a 100% agreement with those of the examiners.

The second observer conducted his observations in January, 1975. He observed five examiners twice for a total of ten protocols. His protocols obtained an agreement rate of 93.3%.

2. Reliability of scoring for fantasy pre-disposition measures. Although the Barron Movement Threshold Inkblots yield a score which is essentially unequivocal, both of the other measures (SFPI and Tell-a-Story) entail scorer judgments.

The over-all purpose of the three measures was to enable differentiation of a high and a low fantasy pre-disposition group. Accordingly, the reliability of scoring of these measures was tested by determining whether an independent observer, familiar with the use of the measures, could select HF and LF groups by simply inspecting all of the protocols. The degree of correspondence with the groups which had been discriminated by the actual scoring procedure could then be ascertained.

Dr. Jerome Singer cooperated in obtaining the services of one of his graduate students for this endeavor. The graduate student, informed only of the number which had been selected by the scoring procedures employed for the investigation (25 HF and 55 LF), inspected the total of 221 protocols. She sorted out 24 which she identified as HF and 60 which

seemed to her to be LF protocols. Twenty-two of her HF group corresponded to those selected by the investigation procedures, three had been "missed" and two of hers did not correspond to ours. She had selected 60 LF protocols; these included all 55 of those previously selected in the investigation and five which did not correspond (Table 5).

This means that there were ten instances of non-correspondence out of the total of 221 protocols, an agreement rate of 95.5%.

TABLE 5

RELIABILITY OF SCORING FOR FANTASY PRE-DISPOSITION MEASURES

	Number of HF	Number of LF	Number Remaining	Total
Identified by Scoring Procedures	25	55	141	221
Identified correctly for Reliability	22	55	134	211
Mis-identified for Reliability	3		7	10
Agreement Rate = 95.47%				

3. Reliability of scoring for O. J. Harvey "This I Believe" protocols: concrete-abstract conceptual systems. The final sample of 38 sets of parents yielded 76 "This I Believe about . . ." protocols which were scored according to the Harvey (Note 5) scoring criteria as previously described. An independent judge, a Ph.D. candidate in child development at Purdue University, familiar with the Harvey scoring, scored 74 of the protocols, assigning each into one of 4 systems. Agreement with the investigation scoring was disappointing; 40 protocols corresponded, but 34 did not, a 54.05% agreement.

Therefore, as previously noted, System 1 and System 2 scores were pooled to form a "concrete" category, while System 3 and System 4 scores, grouped together, formed the "abstract" category.

A second inspection of the judge's scores revealed that the broader categorization resulted in much better agreement with 61 of the 74 protocols corresponding to the newly assigned category of "abstract" or "concrete." This, therefore, yields 82.43% agreement.

4. Reliability of the fantasy pre-disposition measures. During the process of visiting the families, it was possible to re-test 16 of the children with the fantasy pre-disposition measures. Testing of all the children had been completed in January; family visits began in late April so at least three months had elapsed between the original testing and the re-test.

Because examiners went into the household "blind," selection of children for re-testing was circumstantial. If it proved possible to separate the child from the parents' testing, so that parents' responses would not influence the child's responses, a re-test might be accomplished. Sometimes children were playing outside while parents were interviewed and could be called in later. In most instances, however, the child wanted to listen to the parent's interview and had to be considered contaminated for a possible re-test. Subsequent inspection of the re-tests revealed that six of the children had previously been categorized as HF and 10 had been assigned to the LF group.

Scores on each of the three measures were correlated with the original scores obtained by the child on that measure to obtain a correlation coefficient for each of the fantasy pre-disposition tests. Results are tabulated in Table 6.

TABLE 6

TEST RE-TEST CORRELATION COEFFICIENTS:
FANTASY PRE-DISPOSITION MEASURES

Test	r
Barron	.274
SFPI	.750**
Tell-a-Story	.616*

*p<.01 d.f. = N-2 = 14
**p<.001

Thus it is evident that the reliability of the Barron is quite doubtful, while that of the SFPI and Tell-a-Story proved to be much more substantial.

5. Reliability of the Interaction observations. The Interaction between mother and child was recorded on two kinds of protocols (Appendix E). One check-list was used to record the toy used in the scene and by whom it was used. The second obtained a verbatim account of "what is happening" in the scene. In every instance observations were conducted by the principal investigator. On five occasions a second observer maintained a separate check-list of toy utilization and recorded the description of the scene. The toy lists and Interaction scene descriptions were counted and scored in the prescribed manner and compared with those of the principal investigator.

The check-list of toys and who used them proved less reliable than the account of "what is happening" which furnished the Interaction score. The criterion for checking a toy as used by mother or child was that the toy should be placed into and used in the scene. However, on a number of occasions a toy first used by one of the players might be picked up and used further or in another fashion by the other player. Discrepancies

in recording subsequent use of toys resulted in a low reliability for the toy check-lists. None of the observer's corresponded exactly with those of the investigator. The disagreement in actual toy-count was 38 out of 60, yielding an agreement of only 36.67%.

However, the account of "what is happening" provided a reliability of agreement on scores of 100% (i.e., the five observer verbatim records obtained the same score as those of the investigator).

Statistical Analysis of Data

Nominal data which included the sex of the child, ordinal position, whether or not the mother was employed outside the home, the concrete or abstract category of the mother and of the father and the encouragement or discouragement of make-believe play by each parent were analyzed by the use of Chi square.

Fantasy pre-disposition scores for children of LF and HF groups, as well as the scores of their parents, the Interaction scores for LF and HF groups and the permissives and restrictives of each parent were subjected to *t* tests for significant differences.

A correlation matrix was obtained which utilized all of the scores on fantasy pre-disposition measures, IQ scores, age of parents, their years of schooling and similar variables in order to affirm or disaffirm predicted relationships between variables.

Finally, on the basis of the analysis of the correlation matrix, two multiple regression analyses were performed in order to assess the relative contribution of selected predictor variables to a predicted variable, the child's SFPI score.

This study must be considered a pilot investigation into a field which is in its infancy. Subjects for the study are a restricted sample,

limited in terms of numbers, region of the country, socio-economic status and race. No claims are made for representativeness; therefore, extensive inferential statistical procedures were not employed.

CHAPTER IV

RESULTS

Differences Between LF and HF Groups

The tests for significance of differences between LF and HF groups are reported in Table 7.

Neither sex differences, nor that of ordinal position nor the grade level of the child discriminated significantly between the LF and HF groups.

The difference in the Peabody Picture Vocabulary IQ was found to be highly significant, despite an effort to control for IQ effects. All children with an IQ of less than 100 had been eliminated from the selection process. Nevertheless, the LF group had a mean vocabulary-IQ of 117.27 (SD = 8.87) while that of the HF group was 125.94 (SD = 9.73). The t test with 36 df is significant at $p = .0005$.

The age of the parents did not differentiate between LF and HF groups. The number of persons in the household, the number of rooms in the home, the number of mothers employed outside the home were also not relevant.

Although fathers' years of schooling were not significantly different from group to group, the mothers' years of schooling are significantly higher for HF children. Mothers of HF children average 14.88 years of

TABLE 7

DESCRIPTION OF L.F. AND H.F. GROUPS: TESTS OF DIFFERENCES

Variable	Low Fantasy	High Fantasy	Test of Significance
Sex	7 girls 14 boys	9 girls 8 boys	Corrected Chi square (1) = .782 NS
Ordinal Position			
First Born	10	10	Corrected Chi square
"only"	0	2	(1) = 1.20 NS
twin	1	1	
Grade			
Kindergarten	14	11	Corrected Chi square
First Grade	7	6	(1) = .005 NS
Peabody Picture Vocabulary IQ			
Range	104-140	106-145	t Test (36) = -3.86**
Mean	117.27	125.94	
S.D.	8.87	9.73	
Mother's Age			
Range	25-40 years	27-45 years	t Test (36) = -.620 NS
Mean	31.19	32	
S.D.	4.05	5.71	
Father's Age			
Range	27-43 years	26-46 years	t Test (36) = -1.53 NS
Mean	33	34.94	
S.D.	4.27	5.54	
Mother's Years of School			
Range	10-17 years	13-17 years	t Test (36) = -3.48*
Mean	13.86	14.88	
S.D.	2.01	1.22	
Father's Years of School			
Range	13-19 years	12-21 years	t Test (36) = -.909 NS
Mean	15.76	16.24	
S.D.	1.64	2.28	
Mother's outside employment			
Not employed outside home	13	11	Corrected Chi square
Part-time	6	6	(1) = .0026 NS
Full-time	2	0	
Number of persons in family			
Range	4-6 persons	3-6 persons	t Test (36) = 1.79 NS
Mean	4.48	4.18	
S.D.	.68	.73	

TABLE 7 - Continued

Variable	Low Fantasy	High Fantasy	Test of Significance
Number of rooms in home			
Range	4-11 rooms	4-10 rooms	t Test (36) = -.44 NS
Mean	7.14	7.29	
S.D.	1.65	1.49	

*p<.001
**p<.0005

school (SD = 1.22) as contrasted with the mean of 13.86 years (SD = 2.01) for mothers of LF children. The difference is significant at p = .001.

Findings for the Hypotheses

Tables 8, 9, and 10 report results of analysis of scores pertinent to the hypotheses. The correlation matrix for all scores can be found in Appendix G.

1. The first hypothesis stated the prediction of a positive relationship between children's scores on the measures of fantasy play and their parent's scores on the same measures.

The hypothesis was only partially supported and only for certain of the mothers' scores.

It can be seen (Table 8) that the mothers' Barron scores and the SFPI are significantly different from LF to HF group. Mothers' Tell-a-Story scores, however, do not discriminate.

Fathers' scores on the three fantasy pre-disposition measures do not differentiate between LF and HF groups.

Correlation coefficients between parents' and children's scores are presented in Table 9 as abstracted from the complete correlation matrix (Appendix G).

There are no significant correlations between fathers' fantasy predisposition scores and those of the children.

Significant correlations occur between the child's SFPI and two of the mothers' tests, the Barron and the SFPI. Mothers' SFPI is also significantly correlated with children's Tell-a-Story.

2. The second hypothesis stated the prediction that parents of HF children would tend to be rated as "abstract" with regard to conceptual

TABLE 8

MEAN SCORES FOR FANTASY PRE-DISPOSITION MEASURES

Test	Child Score		Mother Score		Father Score	
	L.F.	H.F.	L.F.	H.F.	L.F.	H.F.
Barron	24.571	12.706	17.952	14.529	14.524	15.824
S.D.	3.22	5.57	5.71	6.28	5.98	4.99
t Test	9.375**		2.367*		N.S.	
SFPI	1.429	3.353	1.762	2.412	1.667	1.412
S.D.	.746	.493	1.04	1.23	1.35	1.12
t Test	-16.327**		-2.303*		N.S.	
Tell-a-Story	1.430	7.765	4.290	5.294	4.714	5.00
S.D.	1.33	2.02	2.47	2.47	1.74	2.60
t Test	-13.780**		N.S.		N.S.	

*p<.02
**p<.0001

TABLE 9

CORRELATIONS BETWEEN CHILD'S SCORES ON FANTASY PRE-DISPOSITION MEASURES AND PARENTS' SCORES ON FANTASY PRE-DISPOSITION, RESTRICTIVES AND PERMISSIVES

	Mother's Barron	Mother's Tell-a-Story	Mother's SFPI	Father's Barron	Father's Tell-a-Story	Father's SFPI	Mother's Permissives	Mother's Restrictives	Father's Permissives	Father's Restrictives
Child's Barron	.133	-.147	-.304	.005	.093	.210	-.020	.241	-.019	-.071
Tell-a-Story	-.224	.214	.327*	.057	.132	.197	.048	.217	-.029	.052
SFPI	-.389*	.139	.369*	.104	.160	-.076	.111	-.420*	.224	-.080

*p<.05 r = .320 two tail
df = 36

TABLE 10

PARENT'S CONCRETE OR ABSTRACT CATEGORY

Category	Mother frequency[a]		Father frequency[b]	
	L.F.	H.F.	L.F.	H.F.
Concrete	8	4	9	9
Abstract	13	13	12	8

[a]corrected Chi square (1) = .372 N.S.
[b]corrected Chi square (1) = .085 N.S.

system on O. J. Harvey et al. (1961) scale.

The hypothesis was not supported, either for mothers or for fathers. Table 10 shows that the abstract versus concrete ratings of parents did not distinguish between LF and HF groups of children. Mothers' ratings obtained a Chi square of .372, while Chi square for fathers' ratings was .085, both well below the level of significance.

It can be noted that the total number of parents with abstract conceptual systems is greater for both groups than the total number of parents with concrete conceptual systems.

3. The third hypothesis stated the prediction of a positive relationship between the child's HF pre-disposition and a non-restrictive play environment in the home.

This hypothesis received partial support.

Mother and father, each completing a modified version of the Bishop-Chace (1971) questionnaire on home-play environment, received scores indicating the number of unequivocal permissive responses and the number of wholly restrictive responses. Other possible responses to the questions, all of which contained some qualifiers, were not counted for purposes of this scoring. There are eight questions on the questionnaire (Appendix D) so that each parent might have received a maximum of eight completely permissive or eight extremely restrictive scores. The scoring results are tabulated in Table 11.

It can be noted that the number of permissive responses given by both mothers and fathers is substantially the same for each group. The differences between groups were not significant. Inspection of the correlation matrix (Appendix G) reveals that the permissive scores of both parents obtain few significant correlations; mothers' permissives

TABLE 11

MEAN NUMBER OF PERMISSIVE AND RESTRICTIVE RESPONSES

Response	Mother		Father	
	L.F.	H.F.	L.F.	H.F.
Permissive	2.571	3.058	1.857	2.058
S.D.	1.78	1.71	1.62	1.14
t Test (36)	N.S.		N.S.	
Restrictive	1.048	.352	.857	.823
S.D.	1.07	.606	.964	.951
t Test (36)	4.694*		N.S.	

*p<.0001

are correlated negatively and significantly with mothers' and fathers' restrictives. Fathers' permissives are correlated significantly only with fathers' Tell-a-Story score.

Although the number of restrictive responses from fathers does not differentiate between LF and HF groups, the mothers of LF children give significantly more restrictive responses than mothers of HF children.

Support for the hypothesis, therefore, derives from the indication that although LF and HF children seem to come from homes which are similar in terms of permissive responses of both fathers and mothers, the mothers of these children differ significantly with regard to the number of very restrictive attitudes toward play which they express. Mothers of HF children appear to be less restrictive in attitudes about home-play than mothers of LF children.

The correlation matrix (Appendix G) shows that the mothers' restrictives are significantly related to the child's SFPI and also the several other variables. The significant correlations are abstracted for Table 12. Fathers' restrictives obtain only two significant

correlations, a positive relationship with the mothers' restrictives and negative correlation with mothers' permissives.

TABLE 12

VARIABLES SIGNIFICANTLY CORRELATED WITH MOTHERS' RESTRICTIVES

	Mothers' Restrictives
Child's SFPI	-0.420
Mother's Barron	0.391 (scored in reverse direction)
Mother's SFPI	-0.379
Mother's Tell-a-Story	-0.373
Mother's years of school	-0.564
Father's years of school	-0.371
Number of Rooms in home	-0.417
Father's restrictives	0.404
Room/Person ratio	-0.346

The relationship between mothers' restrictives and the child's fantasy pre-disposition was further explored by means of multiple regression analysis, described in a subsequent section.

4. The hypothesis that the children in this study would resemble their brothers and sisters on the measures of fantasy play was not upheld.

Thirty-two siblings, with an average age of 7.70 years (SD = 2.85), were administered the fantasy pre-disposition measures and the scores correlated with those of their siblings in the sample. The correlation matrix is tabulated in Table 13.

Not one of the child's fantasy pre-disposition measures correlated with any of those of siblings.

The correlations among the child's own fantasy pre-disposition scores would be expected because of the selection process for the high and low fantasy groups. Only children with tested siblings were entered for this matrix.

TABLE 13

CORRELATION MATRIX OF CHILD'S AND SIBLINGS' SCORES
ON FANTASY PRE-DISPOSITION MEASURES

	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6
	Child's Barron	Sib's Barron	Child's SFPI	Sib's SFPI	Child's Tell-a-Story	Sib's Tell-a-Story
1	1.000	.327	-.608*	-.237	-.833*	-.113
2	.327	1.000	-.240	-.218	-.180	-.164
3	-.608*	-.240	1.000	.076	.768*	.147
4	-.237	-.218	.076	1.000	.019	.365*
5	-.833*	.180	.768*	.019	1.000	.038
6	-.113	-.164	.147	.365*	.038	1.000

*p<.05 r = .349 two tail
df = 30

No such selection process obtained for the siblings, however. While the siblings do not seem to systematically resemble their sib in the investigation, their own scores on the SFPI and their scores on the Tell-a-Story are significantly correlated, suggesting that the score on one will tend to predict the score on the other.

5. The fifth hypothesis stated the suggestion that some degree of privacy would be associated positively with higher fantasy pre-disposition.

Specifically, it was predicted that HF children would have 1) more room for privacy as measured by the Room/Person ratio and 2) more mothers employed outside the home and thereby maintaining some degree of distance from the child.

The prediction was not confirmed. Neither condition distinguished between the groups.

The Room/Person ratio did not correlate with any of the children's scores. Its one significant correlation with any measure was, as

recorded on Table 12, a negative association with the number of mothers' restrictive responses ($r = -.346$).

Chi square analysis of the number of mothers working either part time or full time (grouped together for the analysis since the number of full time working mothers in this sample is so small) revealed no basis for assuming a difference for LF or HF groups (Table 7).

6. The sixth hypothesis stated the proposition that mothers and children who play together imaginatively enable a prediction of high fantasy pre-disposition for the children. Operationally, it anticipated a positive relationship between the Interaction score on the mother-child play activity and the level of the child's fantasy pre-disposition.

The hypothesis was substantially supported.

Table 14 records the mean Interaction scores of LF and HF groups together with the *t* test for significance of the difference between means. It can be seen that the Interaction score distinguished between LF and HF groups with a *t* test which is significant at the .0003 level.

TABLE 14

MEAN SCORES FOR INTERACTION (MOTHER-CHILD ACTIVITY)

		Low Fantasy	High Fantasy
Mean Score		2.095	3.118
S.D.		1.04	1.11
t test (36)	-3.986*		

*$p < .0003$

The Interaction score obtained significant correlation coefficients with all three of the child's fantasy pre-disposition measures as reported in Table 15 (abstracted from the complete correlation matrix).

TABLE 15

SIGNIFICANT CORRELATIONS WITH INTERACTION SCORE

	Interaction	
Child's Barron	-.380	
Child's SFPI	.414	
Child's Tell-a-Story	.520	
Father Encourage	.374	(obtained from multiple regression correlation matrix)

To summarize the findings in regard to the hypotheses for this study: The prediction that children and parents would resemble each other with regard to fantasy pre-disposition scores was only partially substantiated for only two of the mothers' scores.

The second prediction which suggested that parents of HF children would tend to be categorized as having an abstract conceptual system was not upheld.

The third prediction of a less restrictive home-play environment for HF children was supported in terms of mothers' but not fathers' responses.

The fourth hypothesis stated the suggestion that brothers and sisters of the children in the sample would resemble their LF or HF sib. This hypothesis did not receive any support at all.

The fifth hypothesis stated the prediction of more privacy in terms of a higher room/person ratio and more mothers employed outside the home for HF children. Neither condition obtained and the hypothesis was not confirmed.

The sixth prediction of more imaginative play-interaction between mother and child for HF children was substantially supported.

Multiple Regression Analysis

The child measure which achieved the largest number of significant correlations with other variables is the SFPI (Table 16). It is also the most stable measure with a high degree of reliability on re-test ($r = .750$, $p = .001$). It was selected as the dependent variable for multiple regression analysis.

TABLE 16

SIGNIFICANT CORRELATIONS WITH CHILD'S BARRON, SFPI AND TELL-A-STORY (ABSTRACTED FROM COMPLETE CORRELATION MATRIX, APPENDIX G)

	Child's Barron	Child's SFPI	Child's Tell-a-Story
Barron (child)	1.000	-.6167	-.8346
SFPI (child)	-.6167	1.000	.7464
Tell-a-Story (child)	-.8346	.7464	1.000
Vocabulary-IQ (child)	-.4888	.4930	.5474
Interaction (mother-child)	-.3798	.4135	.5474
Mother's years of school	-.3538	.3695	
Mother's SFPI		.3695	.3270
Mother's Barron		-.3898	
Mother's Restrictives		-.4195	

Variables relating significantly to the child's SFPI are: the child's IQ, the Interaction score, the mother's years of school, the mother's SFPI, and the mother's number of restrictive responses for home-play environment. The father's views on whether make-believe play should be encouraged distinguished significantly between LF and HF groups (Table 17); this variable, termed "father encourage" was also entered into the analysis.

A stepwise multiple regression analysis employing these variables as predictors was performed. The summary table is reproduced for Table 18.

TABLE 17

PARENT'S RESPONSES REGARDING ENCOURAGEMENT OF MAKE BELIEVE

Response	Mother frequency[a] L.F.	H.F.	Father frequency[b] L.F.	H.F.
Yes	10	8	2	7
No	11	9	19	10

[a]corrected Chi square (1) = .085 N.S.
[b]corrected Chi square (1) = 3.60 Fisher Exact Probability = .056

TABLE 18

SUMMARY TABLE MULTIPLE REGRESSION ANALYSIS I

Step no.	Variable Entered	Multiple R	Rsq	Increase Rsq	F Value
1	IQ	.4830	.2431	.2431	11.5619
2	Interaction	.5988	.3586	.1155	6.3043
3	M's Yrs. School	.6664	.4441	.0855	5.2318
4	F. encourage	.6852	.4695	.0254	1.5788
5	M's restrictives	.6952	.4833	.0138	.8518
6	M's SFPI	.6995	.4892	.0060	.3618

The analysis indicates that for this equation significant contributors to the variance of the child's SFPI score are IQ (24.31%), the Interaction score (11.55%) and the mother's years of school (8.55%). These three variables, taken together, account for a multiple R of .6664 or 44.41% of the variance of the child's SFPI.

Three variables, father encourage, mother's restrictives and mother's SFPI fail to emerge as significant predictors. Each is significantly correlated with a variable which entered the equation earlier.

A second multiple regression was performed with the five most likely

variables of the first equation, three of which had achieved a significant F ratio (IQ, Interaction and mother's years in school) and two which might possibly emerge if the order of entrance were changed. In this instance it was determined that IQ should enter last.

The summary table is reproduced for Table 19.

TABLE 19

SUMMARY TABLE
MULTIPLE REGRESSION ANALYSIS II

Step no.	Variable Entered	Multiple R	Rsq	Increase Rsq	F Value
1	M's Restrictives	.4195	.1760	.1760	7.6903
2	Interaction	.5596	.3131	.1371	6.9878
3	M's years school	.5941	.3530	.0398	2.0093
4	M's SFPI	.6234	.3887	.0357	1.9258
5	IQ	.6867	.4716	.0829	5.0202

The five variables account for 47.16% (R = .6867) of the variance of the child's SFPI. Mothers' restrictives and the Interaction score become significant predictors with restrictives accounting for 17.60% and Interaction accounting for 13.71% of the variance of the dependent variable.

IQ, also, obtains significance, accounting for 8.29% of the variance in this equation.

On this occasion, mothers' years of school does not reach significance. It is significantly correlated with restrictives (r = -.564) so that employing one as a predictor seems to relegate the influence of the other to the background.

Mothers' SFPI does not appear to be an important contributor for either equation.

In the light of the two equations, it is possible to suggest the influence of four variables on the amount of child's make-believe play as measured by the SFPI. Two of these, the child's IQ and the mother-child Interaction, were significant predictors for both equations. Each of the two remaining, mothers' restrictives and mothers' years of schooling, emerged as significant for one equation. It would appear that use of one as a predictor might preclude use of the other; the substantial inter-correlation suggests shared variance which would necessitate testing beyond the scope of this study.

Summary of Findings

To summarize the individual and familial correlates of children's make-believe play which have been suggested by this investigation: the child's vocabulary-IQ seems to be the most important individual characteristic associated with level of fantasy pre-disposition for children in this study.

A relationship was found for two measures of mothers' fantasy pre-disposition, the Barron and SFPI, and children's SFPI. The mothers' years of schooling is correlated with children's scores on the Barron and SFPI. The number of restrictive responses made by the mother with regard to home-play environment is negatively associated with the amount of make-believe of the child's SFPI.

Finally, the amount of fantasy in the Interaction score, for which the mother and child engaged in play together, is significantly correlated with all three of the children's fantasy pre-disposition measures.

CHAPTER V

DISCUSSION

This study was undertaken in an effort to discover possible relationships between individual and family-background factors and children's make-believe play. Because there have been so few investigations of this area, it must be considered exploratory in design and concept. Because the number of subjects is so small in relation to the number of variables, the data must be interpreted with extreme caution.

The sample is limited not only in size but also in composition; it is white, middle class, small family and lives on a large island off the coast of Rhode Island. It contains an unusual number of Navy families because of the large defense installations at Portsmouth and Newport. Inferences from this sample to a general population can be taken only as suggestions for further investigation.

However, the homogeneity of the sample has an advantage of controlling for socio-economic class differences which could otherwise confound findings. These children come from homes with ample space for play and with easy access to beaches, woods and meadows for a wide variety of summer and winter play activities.

Notable was the deep interest of both LF and HF parents in their children and in the study. On the basis of pilot trials approximately one hour had been allotted for the family interviews. It quickly became apparent that the time was greatly underestimated. Parents wanted to

talk after the interview sessions were completed, comparing notes about their responses, plying interviewers with questions and engaging in discussion about childrearing, often until after midnight.

The children, whether LF or HF, appeared to come from similar homes in terms of parental concern and caring, general socio-economic circumstances and physical environment.

Yet, by the measures used for this investigation, the children themselves seem to be very different. They represent the two extremes of a larger group of 221 children with regard to scores for the three fantasy pre-disposition tests. A question must be raised with regard to the validity of the measures. Do these children really differ in the amount of make-believe play?

The findings of other investigators concerning the relationship of the measures to make-believe play, observed under several different circumstances, have been cited. The SFPI, the dependent variable for multiple regression analysis in this study, is scored specifically in terms of the pretend play which can be discerned in the responses and seems to yield reliable scores on retest after a passing of several months. Qualitative examination of the protocols was not within the scope of this study, but non-systematic review indicates that the LF children tended to respond to the question "What do you like to play best?" with physical activity such as "play baseball" or "ride my bike," while HF children typically spoke of playing "house" or "school" or "cowboys." However, the problem of validity is troublesome. Only further research can provide definitive answers to the question. This study was designed to begin with already-existing measures as a step in assaying their utility.

The expected correlations between parents' scores on these measures and the scores of their children did not wholly materialize. It had been anticipated that parents who reported a good deal of make-believe play in their own childhood and whose Barron and Tell-a-Story contained substantial fantasy elements would tend to encourage children's fantasy pre-disposition. Although this was suggested for two of the mothers' scores (SFPI and Barron), fathers' scores did not seem related to those of their children at all. It may be that a number of the fathers in this sample are too busy for extensive contact with their children. Ten of the fathers are college students in addition to being heads of households with full-time jobs; half of these are in graduate work. Five are in the Navy with regular sea duty built into their lives.

However, it does appear that an attitude of unqualified approval of children's make-believe distinguishes between fathers of LF and HF children. The variable did not appear to contribute significantly to the child's SFPI on multiple regression analysis. However, father encourage is significantly related ($r = .374$) to Interaction, a significant predictor in both analyses. It is interesting to conjecture that perhaps fathers' attitudes exert an indirect influence, perhaps in maintaining a supportive rather than a negative atmosphere for fantasy, which better enables the mother and child to engage in make-believe freely when playing together.

A similar speculation might be offered with regard to the mothers' and fathers' restrictives. The Bishop and Chace (1971) study had indicated the importance of lack of restrictiveness in home-play environment provided by the mother. This finding was corroborated by the present investigation. Bishop and Chace were not able to establish any

significant differences for fathers' responses to the home-play questionnaire; however, the restrictiveness of fathers in our sample was significantly related to that of their wives ($r = .404$). Could it be that fathers' restrictive attitudes provide the background for mothers' practices in constraining certain play activities? Clearly, fathers' attitudes, perhaps as they may influence mothers' attitudes and practices, warrant more investigation.

The mothers' restrictiveness was significantly correlated with the child's SFPI, with each of her own fantasy pre-disposition measures, with her years of schooling, the number of rooms in the house and the room/person ratio. The relations are negative (except for the Barron which, it should be recalled, is scored in a reverse direction). It suggests that the higher the fantasy pre-disposition scores, the fewer the restrictives. Also, the more years of schooling, the fewer the restrictives. And the larger the home or the fewer persons per room, the fewer the restrictives. The correlates with restrictiveness seem to make a kind of "common sense" pattern. It is particularly interesting because all of the mothers gave more wholly permissive responses than wholly restrictive responses (Table 11). The entire questionnaire as used in the present investigation (a modified version of the original by Bishop and Chace, 1971) consists of only eight questions. The most restrictive mothers gave an average of 1.04 restrictive responses, so the proportion of restrictive responses to the permissives and to the remainder of the questions does not yield a picture of extreme repression of childhood fun and games. Further use of the home-play environment questionnaire ought to include an item analysis of responses to see if a pattern emerges -- i.e., is it one kind of play which is being ruled out, or are the

restrictives scattered?

In contrast to the Bishop and Chace (1971) investigation, the present study was unable to obtain evidence of differences in abstract versus concrete conceptual systems for LF and HF parents. This might be explained by the relatively high level of education for parents in the sample, with more parents categorized as abstract (46) than were rated as concrete (30). It must also be suggested that in spite of earnest efforts to adhere to the scoring criteria, the scoring of the This I Believe protocols may have been faulty. Such a possibility would also account for the low reliability found for the score procedure.

The level of parental education has been cited as important for children's make-believe play by Freyberg (1973), while mothers' education but not fathers' was significant for Dewing and Taft's (1973) study of creative twelve-year-olds. This investigation confirmed the importance of mothers' education, which correlated significantly with the child's Barron and SFPI. Her level of education is also found to relate to a less restrictive home-play environment. A question for further research might inquire as to what aspects of higher education promote a less restrictive orientation of the mother toward home play.

Additionally, fathers' education is found, in this sample, to relate to the number of rooms in the household which, in turn, seems to promote a lessened number of constraints on play imposed by the mother. This could, perhaps, be another indication of fathers' indirect contribution, with his level of education enabling the material advantage of a larger house and thereby securing a more relaxed atmosphere for mothers' attitudes toward play. This kind of linking of correlations is, admittedly, highly speculative. Nevertheless, it could provide indications of

direction for further research.

In the same vein: Singer (1973) and Freyberg (1973) both report the importance of opportunity for privacy, operationalized as the room/person ratio, in the child's tendency to play imaginatively. For this study the number of rooms in the home, the number of persons in the household, and the room/person ratio all failed to obtain significant correlations with the children's fantasy pre-disposition measures, or to distinguish between LF and HF groups. However, with the number of rooms in the house (and also, the room/person ratio) significantly related to the mothers' restrictives, one may conjucture that perhaps the amount of space available is more important for the mother's sense of what kinds of play must be constrained with strict rules, than for obtaining privacy. Again, a question for further research.

Also, because of the income level, the number of rooms in these houses was high in proportion to the number of people. This might not obtain for a city apartment-house population. It may be that "room for privacy" becomes important as a factor for imaginative play under circumstances which are typically over-crowded, but does not emerge as important when the amount of space is generally ample.

A final comment -- a caveat: the design for this study implied a notion of unidirectional effect, from parent to child. However, the current literature in child development, beginning with Bell (1968) emphasizes the transactional nature of parent-child interaction. It must be acknowledged that the tendency of the child to play imaginatively might well encourage enjoyment of fantasy by the mother. Perhaps make-believe play does not necessitate the kinds of restrictive arrangements that high motoric play might demand. Such considerations could help to

account for the failure to obtain resemblance between fantasy pre-disposition scores of children and their siblings. One might even suggest, with Smilansky (1969) and others, that make-believe play promotes verbal intelligence.

These are certainly considerations which must guide further research.

Instruments

This study employed several instruments which have been used in previous investigations: the Barron Inkblot Movement Threshold and the Singer Structured Fantasy Pre-disposition Interview (SFPI) (Singer, 1973; Freyberg, 1973; Pulaski, 1973), and a modified version of Tell-a-Story (Pulaski, 1970) in order to assess the child's, parent's and siblings' fantasy pre-disposition. In addition, the O. J. Harvey (1970) test of conceptual style and a modified version of the Home-Play Environment attitude questionnaire (Bishop and Chace, 1971) were employed to measure parent variables. It is appropriate to report on our experience with these instruments.

The test-retest reliability of the Barron is so low that serious doubt must be raised regarding its utility without further effort toward standardization. Such an effort ought also to include an assessment of the present order of the inkblots. Our persistent impression held that certain of the later ones obtained fewer M responses than early ones, though the arrangement supposedly yields a series in which M responses become progressively easier to obtain. The final inkblot (#28) especially seems misplaced.

The SFPI was demonstrated to be a useful and highly reliable measure for our sample. The scoring can apparently be accomplished to discriminate

a LF and HF group with an extraordinary degree of agreement between actual scoring of protocols and a more "global" scanning and sorting procedure. It is further possible to administer according to standardized procedures. The Tell-a-Story was only slightly less reliable. It is hoped that other investigators will be interested in further use of these instruments, enabling cross-study comparisons as well as the possibility of obtaining some fully standardized tools for research in children's make-believe play.

The O. J. Harvey (1970) This I Believe test proved very difficult to score reliably into four Systems according to the scoring criteria. Better results were obtained if the respondents were simply categorized as "abstract" or "concrete." It would seem that widely-used instruments should provide scoring criteria which enable ready and reliable assessment, again in the interest of cross-study comparisons.

The Home-Play Environment attitude scale, as used in this investigation, was not checked for reliability. If subsequent study can document this, it too can be recommended for further research as an attractive and easily administered instrument. Parents seemed to enjoy responding and, later, discussing their responses with each other and with the examiners.

The Interaction mother-child play activity, contrived for this study, seems to have potential as a predictor of children's tendency toward high or low fantasy play. It was not checked for reliability and the method of recording for use of toys must be refined. It requires only about twenty minutes for administration. Scoring is relatively simple and, though this needs more extensive checking, seems quite reliable. Children and mothers alike were readily engaged in the activity, and children

and sibs enjoyed playing with the toys later, while examiners were busy with parents.

Finally, it should be noted that the research into children's play had great fascination for parents. Parents were charmed with being invited to discuss their own preferred childhood activities (for the SFPI) and were eager to compare notes after separate interviews. It appeared that few parents had described their childhood fun to each other, and the occasion seemed to open new areas for communication. Often, one or the other would exclaim, "You never told me that!" This might offer a fruitful direction for further research, especially if extended into present activities. What do adults do now for "play?" What kinds of childhood activities are carried forward into adult life? Needed also is an assessment of the role of television in both children's play and adult leisure-time pleasure.

Conclusions

Play, the ubiquitous childhood activity, has until recently been little researched. One of the difficulties is that an operational definition must almost certainly invoke the notion of spontaneous, freely chosen engagement; therefore when the scientist attempts to quantify it or remove it to his laboratory or circumscribe it for closer scrutiny, he tends to violate its most salient characteristic. It is, of course, the old problem of "observer effect."

This investigation has attempted to check out some previously used instruments and suggestive findings of other researchers and to test some hunches about background influences on fantasy play. The results were modest. Supported was an indication of mother's influence in terms of

her own fantasy pre-disposition, her years of school, her interaction with the child in a play activity and her attitudes about constraints on play in the home. Unsupported was the possibility of a difference in cognitive style of parents as influencing fantasy play or substantial influence from fathers' attitudes or similarity of siblings with regard to fantasy pre-disposition. Although the IQ of the child seems to be associated with level of make-believe, the sex of the child, ordinal position or number of rooms in the household does not.

Obscured in scores and tests of significance, however, are the many delightful incidents which, unscientifically, have served as reminders of the elusive qualities of play.

There was the tiny kindergartener who, upon being escorted back to her room after testing, stopped in the hall and exclaimed "Oh, I have to go back. I forgot to say goodbye." The student examiner was puzzled. "Yes," responded the small lass solemnly. "The clown and the monkey. They were watching us all the time." The student examiner reporting this was still a little shaken!

There was the little boy with an imaginary companion named "Jethro" who "wakes me up at night to get him a drink of water." And another whose imaginary friend is named "abdominal snow man." The spelling is correct.

There was a young father with eyes alight as he described making fireworks in his basement. He and his own father (the childrens' grandpa) have "wars with castles" whenever the mother is not around to object. They make castles out of blocks at opposite ends of the living room and catapult little rockets at each other's construction. The three small girls wear hard hats and become "knights," retrieving and

passing ammunition.

And a set of sisters who captured one of the student examiners, taking her out to their play house and refusing to let her go; each time she suggested returning to the house, they insisted on having another pretend dinner.

Many of the protocols include drawings the children made for us; often we found additions or exchanges in the cannister of toys -- we also discovered early that we would need several duplicate sets of toys because the attrition was so high, attesting, perhaps, to their child-appeal.

Lately it was learned that the study appeared to have introduced a new pretend activity in one neighborhood. The mother of an interview-family, meeting the investigator in a store, reported that her children had invented a game called "psychologist." The procedure consists of dumping a cannister of toys out on the table and then making copious "notes" on papers pinned to a clip board.

With the study of play still in its infancy, with its boundaries, as Klinger (1969) states, "ambiguous," with rigorous operational definitions still to be fashioned, the present study must be regarded as an excursion into unventured territory.

Such investigations can help to discover the new questions to be asked and assist in charting for further research. It is hoped that in this vein the present study will make a contribution.

APPENDICES

APPENDIX A

Directions for Testing

Barron's Movement Threshold Inkblots

To the child: I am going to show you some cards with designs on them. They aren't made to look like anything -- they are just designs that were made by dropping ink on paper and folding it. I want you to look at each of the designs and tell me what it reminds you of -- what it looks like to you. Every child can see different things and there aren't any right or wrong answers. Sometimes one card may look like more than one thing but I only want you to tell me one thing that you see on each card.

(To the tester: If a child gives more than one response to a card repeat that you only want one answer per card and ask him to tell you which of his answers that design reminds him of most.)

Peabody Picture Vocabulary Test (PPVT)

To the child: "I have some pictures to show you." (Turn to example A and say:) "See there are four pictures on this page. Each of them is numbered. (point to each one) I will say a word, then I want you to point to the picture which best tells me the meaning of the word. Let us try one. Point to the picture that best tells the meaning of 'crib.'" (After the child responds correctly, then turn to example B saying:) "That's fine. Which picture is fin?" (Then to C.) "What picture is 'butterfly?' Fine! Now I'm going to show you some other pictures. Each time I say a word you point to the picture which best tells the meaning of a word. As we go through the book you may not be sure you know the meaning of some of the words, but I want you to look carefully at all of the pictures anyway and choose the one you think is right. What picture is _____?"

To the examiner: Be sure that each child looks at each of the alternatives because sometimes younger children will start looking in only one location. Also, always be sure to get a response for every card. If the child doesn't know the word, have him give it a try anyway. You may encourage the child after some responses by saying "good," "fine," etc., but don't do it just after correct responses. You are praising the child's effort not its correctness. You may repeat a word if necessary. Do not precede any word with an article (a, an, the) and do not make any singular words plural.

Scoring: Start with item #25 for all children. Continue forward until the child makes his first error. If this is before he gets 8 correct, go back to a lower level (below 25). The ceiling score is determined by the point at which the child has missed 6 out of 8 words.

APPENDIX B

Singer's Structural Fantasy Pre-disposition Interview (SFPI)

To the tester: These questions are designed to discover the nature of each child's play and fantasy life. They should be presented slowly and matter-of-factly to the child with as little comment on your part as possible except to elicit details when an answer is unclear. Because scoring is based on whether or not the child's answer indicates that he is introducing make-believe elements into his play, it will be necessary to follow-up answers which are not clearly make-believe or not make-believe. However, do not go beyond the probe in questioning, though it can be used more than once.

To the child: I am going to ask you some questions about things you like to do.

(1) What do you like to play best? What do you like to play the most?
(Probe: Tell me more about it.) (Probe: Tell me how you play it.)

(2) What do you like to play best when you are all alone? What do you like to do best when you are all alone?
(Probe: Tell me more about it.) (Probe: Tell me how you play it.)

(3) Do you ever see make-believe things with pictures in your mind or think about them? What sort of things?
(Probe: Tell me more about it.)

(4) Do you have a make-believe friend? Do you have an animal or toy or make-believe person you talk to or take along with you?
(Probe: Tell me more about this.)

Tell-a-Story (Stimulus situation; card #6. Human CAT.

To the child: Now I am going to show you a picture. Tell me a story about what you see.

(Probe: Make up a story about it.)

(Probe: Anymore?)

(Probe: Anymore to your story?)

APPENDIX C

O. J. Harvey Questionnaire

Now we would like to know your opinions and beliefs about several other topics. Please write at least two (2) sentences about each topic. You will be timed on each topic at a pace that will make it necessary for you to work rapidly. Be sure to write what you genuinely believe. Take the topics in order, beginning with number 1.

1. This I believe about marriage . . .

2. This I believe about religion . . .

3. This I believe about the American Way of Life . . .

4. This I believe about friendship . . .

5. This I believe about people . . .

6. This I believe about guilt . . .

7. This I believe about women's rights . . .

8. This I believe about work . . .

9. This I believe about law . . .

10. This I believe about education . . .

APPENDIX D

Home-Play Questionnaire

This is a short questionnaire about some of your feelings about play. Notice that there are possible answers showing about how some people feel about play. Circle the letter of the one which is closest to how you feel. If none of them apply write your own answer in the bottom space.

1. When should children play?

   a. When chores and work are all completed.
   b. A regularly scheduled play time is best.
   c. Whenever they want to.
   d. Only with parent's permission.
   e.

2. Boys should be discouraged from playing with girls' toys and games.

   a. Only when the child seems to play with girls' toys to excess, or more than he plays with boys' toys.
   b. Never.
   c. Always.
   d. Only when there is no adult male or father in the household.
   e.

3. A child should share his toys with other children.

   a. Always.
   b. With visitors and brothers and sisters.
   c. If the parent thinks it should be shared.
   d. When ever he wants to.
   e.

4. Wrestling or rough-housing should be done:

   a. Only outdoors or in designated areas.
   b. Only when closely supervised by an adult.
   c. No restrictions ought to be placed on it.
   d. Only by boys.
   e.

5. Children's play should be mainly things that teach them useful ideas and skills.

   a. Completely agree.
   b. Mildly agree.
   c. Completely disagree.
   d. Mildly Disagree.
   e.

6. Make-believe play ought to be encouraged.

   a. Mainly when children are younger.
   b. As much as possible for all children.
   c. Unless the child is doing too much of it.
   d. No, it rather should be discouraged.
   e.

7. Girls should be discouraged from playing with boys' games and toys.

   a. Never.
   b. Always.
   c. Only when child seems to play with boys' toys to excess or more than she plays with girls' toys.
   d. Only as she grows older if she continues to prefer boys' toys, things.
   e.

8. How should a parent react when the child is using a toy in a wrong way enjoyably?

   a. The child should be stopped and taught the correct way to use the toy.
   b. The incident does not call for any special reaction.
   c. Probably ought to warn the child and if misuse of toy persists, punish.
   d.

APPENDIX E

Interaction

Here are lots of little toys. Both of you, playing together, use any of them to build an exciting scene -- as if for a movie -- and then tell me what is happening. (Permit the building of the scene to occupy five minutes. Then say, "Now can you tell me what is happening?")

Interaction

Child	M
Mother figure	
Father figure	
baby	
toy furniture	
car	
rhino	
lion	
horse	
policeman	
"mother"	
"father"	
"baby"	
blocks	
"car"	
green thing	
red thing	
Dumbo	
Superman	
pipe cleaners	
popsickle sticks	

APPENDIX F

Demographic Information

Father's name_____ Age_____

Occupation_____ Last year completed schooling_____

Mother's age_____ Occupation_____

Last year completed schooling_____

Number of children in family_____ Name_____ Age_____

Name_____ Age_____

Name_____ Age_____

Name_____ Age_____

Name_____ Age_____

Others living with family_____ Age_____ Years of Schooling_____

Number of rooms in house_____

APPENDIX G

Variables for Correlation Matrix

Col 1	Child's IQ
Col 2	Child's Barron
Col 3	Child's Tell-a-Story
Col 4	Child's Fantasy Toys (used for Interaction)
Col 5	Mother's Age
Col 6	Mother's Years of School
Col 7	Mother's Barron
Col 8	Mother's Tell-a-Story
Col 9	Mother's Fantasy Toys (used for Interaction)
Col 10	Father's Age
Col 11	Father's Years of School
Col 12	Father's Barron
Col 13	Father's Tell-a-Story
Col 14	Number of Rooms in Home
Col 15	Child's SFPI
Col 16	Child's Realistic Toys (used for Interaction)
Col 17	Interaction
Col 18	Mother's SFPI
Col 19	Mother's Numbers of Permissives
Col 20	Mother's Number of Restrictives
Col 21	Mother's Realistic Toys (used for Interaction)
Col 22	Father's SFPI
Col 23	Father's Number of Permissives
Col 24	Father's Number of Restrictives
Col 25	Number of Persons in the Household
Col 26	Child's Total Number of Toys
Col 27	Mother's Total Number of Toys
Col 28	Room/Person Ratio

CORRELATION MATRIX

ROW	COL. 1	COL. 2	COL. 3	COL. 4	COL. 5	COL. 6	COL. 7	COL. 8
1	1.0000	-0.4888 *	0.5474 *	-0.0839	-0.0718	0.2084	0.1104	0.0864
2	-0.4888 *	1.0000	-0.8346 *	-0.0776	-0.1584	-0.3538 *	0.1333	-0.1473
3	0.5474 *	-0.8346 *	1.0000	0.0777	0.0649	0.1963	-0.2236	0.2135
4	-0.0839	-0.0776	0.0777	1.0000	0.1754	0.1845	-0.1234	0.1778
5	-0.0718	-0.1584	0.0649	0.1754	1.0000	0.2955	-0.1795	-0.0101
6	0.2084	-0.3538 *	0.1963	0.1845	0.2955	1.0000	-0.4793 *	0.5076 *
7	0.1104	0.1333	-0.2236	-0.1234	-0.1795	-0.4793 *	1.0000	-0.3147
8	0.0864	-0.1473	0.2135	0.1778	-0.0101	0.5076 *	-0.3147	1.0000
9	0.0388	0.0901	-0.1907	-0.4063 *	-0.2178	-0.1247	0.1728	-0.0852
10	0.0440	-0.2276	0.1278	0.1845	0.8757 *	0.2433	-0.1814	0.0856
11	0.1173	-0.1635	0.0127	0.2311	0.0016	0.2486	-0.1833	-0.0799
12	0.0847	0.0053	0.0571	0.2914	0.0588	0.2498	-0.1409	0.2594
13	0.2273	-0.0930	0.1323	0.3873 *	-0.1517	0.2008	-0.3185	0.4186 *
14	0.1363	-0.1686	-0.0487	0.0169	-0.0087	0.3010	-0.1082	-0.0271
15	0.4930 *	-0.6167 *	0.7464 *	0.0903	0.0529	0.3849 *	-0.3808 *	0.1393
16	-0.1161	-0.3015	0.1859	0.1838	0.4125 *	0.1193	-0.1329	0.0644
17	0.1579	-0.3798 *	0.5702 *	0.3444 *	0.0925	-0.0343	-0.2500	0.1946
18	0.3603 *	-0.3036	0.3270 *	0.1611	-0.1699	0.1506	-0.3677	0.3608 *
19	0.0847	-0.0207	0.0480	-0.0780	-0.1987	0.0135	-0.1812	0.1177
20	-0.2852	0.2409	-0.2168	-0.1788	0.0623	-0.5644 *	0.3908 *	-0.3770 *
21	-0.2197	0.0877	-0.1885	0.1173	-0.2496	-0.1108	0.2348	-0.1844
22	-0.2301	0.2096	-0.1965	-0.1396	-0.4134 *	-0.0819	-0.3879	0.2812
23	0.1763	-0.0193	-0.0291	0.1849	-0.0712	0.1702	-0.1065	0.1189
24	-0.2968	-0.0712	0.0524	0.1699	0.2041	-0.1807	0.0164	-0.1560
25	0.0526	0.1010	-0.1001	-0.1130	0.2049	-0.0240	-0.1448	0.1009
26	-0.1275	-0.2311	0.1638	0.8194 *	0.3659 *	0.3176	-0.1853	0.1842
27	-0.1010	0.1156	-0.2463	-0.2211	-0.3015	-0.1538	0.3607	-0.1688
28	0.0919	-0.2317	0.0129	0.0341	-0.1748	0.3447 *	-0.3307	0.0336

ROW	COL. 9	COL. 10	COL. 11	COL. 12	COL. 13	COL. 14	COL. 15	COL. 16
1	0.0388	0.0440	0.1173	0.0847	0.2273	0.1363	0.4930 *	-0.1161
2	0.0901	-0.2276	-0.1635	0.0053	-0.0930	-0.1686	-0.6167 *	-0.3015
3	-0.1907	0.1278	0.0127	0.0571	0.1323	-0.0487	0.7464 *	0.1859
4	-0.4063 *	0.1845	0.2311	0.2914	0.3873 *	0.0169	0.0903	0.1838
5	-0.2178	0.8752 *	0.0016	0.0588	-0.1517	-0.0087	0.0529	0.4125 *
6	-0.1247	0.2433	0.2486	0.2498	0.2008	0.3010	0.3849 *	0.1193
7	0.1728	-0.1814	-0.1833	-0.1409	-0.3185	-0.1082	-0.3808 *	-0.1329
8	-0.0852	0.0856	-0.0799	0.2594	0.4186 *	-0.0271	0.1393	0.0644
9	1.0000	-0.1021	0.0125	-0.4612 *	-0.2285	0.0443	-0.1679	-0.0857
10	-0.1021	1.0000	0.0224	0.0903	-0.0742	0.0178	0.1541	0.3608 *
11	0.0125	0.0224	1.0000	-0.0628	0.3904 *	0.3411 *	0.2559	0.3342 *
12	-0.4612	0.0903	-0.0628	1.0000	0.1891	-0.0214	0.1067	-0.0435
13	-0.2285	-0.0742	0.3904 *	0.1891	1.0000	0.1640	0.1606	0.3875
14	0.0443	0.0178	0.3411 *	-0.0214	0.1640	1.0000	0.3698	-0.0684
15	-0.1679	0.1541	0.2559	0.1067	0.1606	0.3698	1.0000	0.2245
16	-0.0857	0.3608 *	0.3342 *	-0.0435	0.3875	-0.0684	0.2245	1.0000
17	-0.0766	0.0456	0.0420	0.1485	0.2609	-0.2557	0.4135 *	0.1787
18	0.0304	-0.0804	0.1447	-0.0093	0.1777	-0.0510	0.3895 *	-0.0460
19	0.3858 *	-0.0824	0.1664	0.1315	0.0489	0.1756	0.1112	-0.2913
20	-0.0093	0.0272	-0.3710 *	-0.1852	-0.3139	-0.4170 *	-0.4195 *	-0.1949
21	0.1776	-0.2487	-0.3348 *	-0.0864	-0.1725	0.0276	-0.1627	-0.3569 *
22	0.1099	-0.3549 *	0.0062	0.1523	0.1758	0.1053	-0.0763	-0.2949
23	0.1020	-0.0558	0.2264	-0.0720	0.3819 *	0.1520	0.2238	0.1040
24	-0.2511	0.2977	-0.1794	-0.1468	-0.1331	-0.1598	-0.0804	0.0707
25	-0.0227	0.0800	0.0658	-0.3203 *	0.2331	0.3973 *	-0.1567	-0.1224
26	-0.3393 *	0.3418 *	0.3595 *	0.1822	0.3268 *	-0.0278	0.1952	0.7141 *
27	0.8172 *	-0.2185	-0.1872	-0.3796 *	-0.2640	0.0448	-0.2147	-0.2698
28	0.0919	0.0055	0.2901	0.1904	-0.0468	0.7133 *	0.1842	0.0625

ROW	COL. 17	COL. 18	COL. 19	COL. 20	COL. 21	COL. 22	COL. 23	COL. 24
1	0.1579	0.3603 *	0.0847	-0.2852	-0.2197	-0.2301	0.1743	-0.2948
2	-0.3798 *	-0.3036	-0.0707	0.2409	0.0877	0.2096	-0.0188	-0.0712
3	0.5202 *	0.3270 *	0.0480	-0.2168	-0.1885	-0.1965	-0.0291	0.0524
4	0.3444 *	0.1611	-0.0780	-0.1788	0.1173	-0.1396	0.1849	0.1609
5	0.0925	-0.1699	-0.1987	0.0623	-0.2496	-0.4134 *	-0.2712	0.2041
6	-0.0343	0.1506	0.0135	-0.5844 *	-0.1108	-0.0819	0.1752	-0.1807
7	-0.2500	-0.0677	-0.1812	0.3908 *	0.2348	-0.3879	-0.1065	0.0144
8	0.1246	0.3508 *	0.1177	-0.3730 *	-0.1844	0.2312	0.1189	-0.1560
9	-0.0766	0.0304	0.3858 *	-0.0093	0.1776	0.1099	0.1020	-0.2511
10	0.0456	-0.0604	-0.0824	0.0272	-0.2487	-0.3549 *	-0.0856	0.2537
11	0.0470	0.1447	0.1664	-0.3710 *	-0.3748 *	0.0967	0.2344	-0.1704
12	0.1485	-0.0093	0.1315	-0.1852	-0.0864	0.1523	-0.0720	-0.1448
13	0.2609	0.1777	0.0489	-0.3139	-0.1725	0.1758	0.3819 *	-0.1331
14	-0.2557	-0.0510	0.1756	-0.4170 *	0.0226	0.1053	0.1520	-0.1509
15	0.4135 *	0.3699 *	0.1112	-0.4195 *	-0.1672	-0.0763	0.2238	-0.0804
16	0.1757	-0.0460	-0.2913	-0.1949	-0.3543 *	-0.2949	0.1060	0.0707
17	1.0000	0.1756	0.2819	-0.1080	-0.1903	-0.0111	0.3100	-0.1844
18	0.1756	1.0000	0.0591	-0.3797 *	-0.0238	-0.0954	0.1500	-0.0861
19	0.2819	0.0591	1.0000	-0.3284 *	0.0717	0.4163 *	0.1141	-0.3982 *
20	-0.1080	-0.3792 *	-0.3284 *	1.0000	0.1300	-0.2622	-0.2371	0.4041 *
21	-0.1903	-0.0238	0.0717	0.1300	1.0000	0.0889	-0.3114	0.1955
22	-0.0111	-0.0954	0.4163 *	-0.2622	0.0889	1.0000	0.2166	-0.1764
23	0.3100	0.1500	0.1141	-0.2371	-0.0114	0.2166	1.0000	-0.2694
24	-0.1844	-0.0861	-0.3982 *	0.4041 *	0.1955	-0.1764	-0.2694	1.0000
25	-0.1031	-0.0482	-0.0496	-0.1037	0.0038	0.0250	0.0455	-0.1190
26	0.3477 *	0.0879	-0.2254	-0.2422	-0.1243	-0.2714	0.1923	0.1622
27	-0.1661	0.0077	0.3172	0.0695	0.7123 *	0.1305	0.0661	-0.0846
28	-0.2377	-0.0567	0.2245	-0.3464 *	-0.0125	0.0847	0.0970	-0.0820

ROW	COL. 25	COL. 26	COL. 27	COL. 28	COL.	COL.	COL.	COL.
1	0.0526	-0.1275	-0.1010	0.0919				
2	0.1010	-0.2311	0.1156	-0.7317				
3	-0.1001	0.1638	-0.2463	0.0129				
4	-0.1130	0.8194 *	-0.2211	0.0341				
5	0.2049	0.3655 *	-0.3015	-0.1548				
6	-0.0240	0.3176	-0.1538	0.3447 *				
7	-0.1648	-0.1653	0.2607	-0.0307				
8	-0.1009	0.1642	-0.1688	0.0336				
9	-0.0227	-0.3393 *	0.8172 *	0.0919				
10	0.0600	0.3418 *	-0.2185	0.0055				
11	0.0658	0.3595 *	-0.1872	0.2901				
12	-0.3209 *	0.1822	-0.3796 *	0.1904				
13	0.2331	0.3268 *	-0.2640	-0.0466				
14	0.3973 *	-0.0278	0.0448	0.7133 *				
15	-0.1567	0.1952	-0.2147	0.1842				
16	-0.1226	0.7141 *	-0.2698	0.0575				
17	-0.1031	0.3477 *	-0.1661	-0.2377				
18	-0.0882	0.0879	0.0077	-0.0567				
19	-0.0496	-0.2254	0.3172	0.2245				
20	-0.1037	-0.2422	0.0695	-0.3464 *				
21	0.0038	-0.1243	0.7123 *	-0.0125				
22	0.0250	-0.2714	0.1305	0.0847				
23	0.0455	0.1923	0.0661	0.0970				
24	-0.1190	0.1622	-0.0846	-0.0820				
25	1.0000	-0.1520	-0.0139	-0.3375 *				
26	-0.1520	1.0000	-0.3148	0.0549				
27	-0.0139	-0.3148	1.0000	0.0493				
28	-0.3375 *	0.0549	0.0493	1.0000				

APPENDIX H

Letter to Parents Requesting Consent

Dear Parent:

This letter is to introduce me and a research project I am conducting regarding children's play. I am Lorraine Dennis, an instructor at Roger Williams College. The research will become a part of my dissertation for the Ph.D. degree at the University of Florida.

For the project, my research assistants (advanced students of psychology from Roger Williams College) and I will be studying the play of kindergarten and first-grade children. We will be asking the child to do the following: 1) make up a story about a picture of some people who are camping; 2) describe what is seen in a set of ink blots, and 3) answer four questions about favorite games and play activities. Total interview time is about twenty minutes. The purpose of the interview is to obtain information regarding children's preferred ways of playing.

Later, we intend also to study a small number of families to see whether brothers and sisters are generally alike in their style of play and what kinds of play the parents most enjoyed when they were young. These families will be contacted individually and, of course, will be included only if they are willing to grant permission.

It should be emphasized that the identity and name of each child (and of any participating family) become lost when combined in the group measures and statistics. Findings are expressed in percentages, age-levels, correlations, boys versus girls, trends, etc. No names will ever appear!

We believe that this research will help provide a better understanding of the place of play in the life of a child -- and that the results will be of interest to all of us who live and work with children. Therefore, we plan to offer a report of the general results of this study to any interested parents.

If you have any questions concerning any aspect of this study, please contact me at 255-2105 (my office) or 245-4145 (my home).

We will be deeply grateful for permission to include your child in this first phase of the study. Please sign either form #1 or form #2 indicating your approval or rejection. An envelope is enclosed for your convenience; however, the form may be returned to your child's school. Thank you very much!

Lorraine Bradt Dennis
Psychology Area

LBD/mgd
Enclosures

APPENDIX I

Consent Form

form #1

I GIVE PERMISSION FOR MY CHILD _____
(child's name)

TO BE INTERVIEWED IN CONNECTION WITH THE STUDY OF CHILDREN'S PLAY.

_____
(Parent's or Guardian's Signature)

****

form #2

I DO NOT WISH MY CHILDREN TO BE INTERVIEWED FOR THE STUDY OF CHILDREN'S PLAY. _____
(child's name)

_____
(Parent's or Guardian's Signature)

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BIOGRAPHICAL SKETCH

Lorraine Bradt Dennis was born May 11, 1921, in Norway, Michigan, attended public schools in Hibbing, Minnesota and graduated in 1938. She earned a combination degree, B.S., R.N., at the University of Minnesota in 1943 and a Master of Science in Psychology at Kansas State College in 1951.

Her professional career has included teaching assignments at Kansas State College, Drake University, the Pennsylvania State University and Marymount College of Virginia. In addition, she is the author of a text book, Psychology of Human Behavior for Nurses, published by W. B. Saunders Co. and was one of the founders of the Child Study Center in Caracas, Venezuela, designed to offer psychological and psychiatric services to English language schools in that city.

She is a member of the American Psychological Association, the Society for Research in Child Development, the American Educational Research Association, Sigma Theta Tau, an honorary nursing society, and Phi Kappa Phi, an honorary scholastic society.

She is, at present, a member of the faculty of Roger Williams College, Bristol, Rhode Island and serving as coordinator of the Psychology Area.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Ira J. Gordon, Chairman
Graduate Research Professor
Foundations of Education

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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